

Listing of the Claims:

1. (Currently amended) A prosthetic implant system for repairing a knee joint in a body of a patient, comprising:

a first member including a first elongated articulating surface, the first member affixable to only one of a medial and lateral condyle of a femur portion of the knee joint, the first articulating surface operative as a weight bearing surface throughout the normal range of motion of the joint, for the only one condyle;

a second member including a second articulating surface, the second member affixable to a trochlear section of the femur portion; and

a third member including a third articulating surface, the third member affixable to an end portion of a tibia portion of the knee joint opposite the first member;

wherein the other of the medial and lateral condyles is not provided with an affixed articulating surface operative as a weight bearing surface.

2. (Original) The prosthetic implant system of claim 1, wherein the first and the second members are separated by a bone portion of the femur portion when affixed to the femur portion.

3. (Original) The prosthetic implant system of claim 1, wherein the first and second members are modular members, such that the first and second members are connected to each other.

4. (Original) The prosthetic implant of claim 3, wherein the first and second members are connected prior to attachment to the femur portion.

5. (Original) The prosthetic implant of claim 3, wherein the first and second members are connected after attachment to the femur portion.

6. (Original) The prosthetic implant of claim 1, wherein the first member is affixable to the medial condyle of the femur portion.

7. (Original) The prosthetic implant of claim 1, wherein the first member is affixable to the lateral condyle of the femur portion.

8. (Currently amended) A prosthetic implant system for repairing a knee joint in a body of a patient, comprising:

a first member including a first articulating surface, the first member affixable to one of a medial and lateral condyle of a femur portion of the knee joint;

a second member including a second articulating surface, the second member affixable to a trochlear section of the femur portion; and

a third member including a third articulating surface, the third member affixable to an end portion of a tibia portion of the knee joint opposite the first member;

wherein the first and third articulating surfaces are magnetically charged to repel each other to promote smooth gliding of the respective surfaces after surgery.

9. (Previously presented) A prosthetic implant system for repairing a knee joint in a body of a patient, comprising:

a first member including a first articulating surface, the first member affixable to one of a medial and lateral condyle of a femur portion of the knee joint;

a second member including a second articulating surface, the second member affixable to a trochlear section of the femur portion;

a third member including a third articulating surface, the third member affixable to an end portion of a tibia portion of the knee joint opposite the first member; and

a plurality of strips, wherein one each of the strips is removably attachable to the first, second, and third articulating surfaces.

10. (Original) The prosthetic implant of claim 9, wherein the plurality of strips are magnetically charged.

11. (Original) The prosthetic implant system of claim 1, wherein the first and third articulating surfaces are each made of a metallic material.

12. (Previously presented) A method of performing surgery on a leg of a patient, comprising:

- making an incision in a knee portion of the leg;

- preparing only a single condyle end section of a femur in the knee portion;

- preparing a trochlear section of the femur;

- moving a first elongated implant through the incision, the first implant having an articulating surface;

- connecting the first implant with the prepared condyle end section of the femur, the articulating surface of the first implant operative as a weight bearing surface throughout the normal range of motion of the joint, for the prepared condyle;

- moving a second implant through the incision; and

- connecting the second implant with the prepared trochlear section of the femur;

- wherein the first and second implants are implantable without a requirement for severing either cruciate ligament.

13. (Original) The method of claim 12, further comprising:

- preparing an end section of a tibia of the knee portion opposite the prepared condyle end section of the femur;

- moving a third implant through the incision; and

- connecting the third implant with the prepared end portion of the tibia, such that the third implant articulates with the first implant.

14. (Currently amended) A method of performing surgery on a leg of a patient, comprising:  
making an incision in a knee portion of the leg;  
preparing a condyle end section of a femur in the knee portion;  
preparing a trochlear section of the femur;  
moving a first implant through the incision;  
connecting the first implant with the prepared condyle end section of the femur;  
moving a second implant through the incision;  
connecting the second implant with the prepared trochlear section of the femur;  
preparing an end section of a tibia of the knee portion opposite the prepared condyle end section of the femur;  
moving a third implant through the incision; and  
connecting the third implant with the prepared end portion of the tibia, such that the third implant articulates with the first implant;  
wherein the first and third articulating surfaces are magnetically charged to repel each other to promote smooth gliding of the respective surfaces after surgery.

15. (Original) The method of claim 12, further comprising aligning the first and second implants for connection to the femur.

16. (Original) The method of claim 15, wherein computer navigation is used to align the first and second implants.

17. (Original) The method of claim 12, further comprising elevating a patella in the knee portion.

18. (Original) The method of claim 12, wherein the first implant includes a first articulating surface and the third implant includes a third articulating surface, such that the first articulating surface slidably engages the third articulating surface.

19. (Original) The method of claim 12, further comprising connecting the first implant to the second implant.

20. (Original) The method of claim 19, wherein the first implant is connected to the second implant after inserting the first and second implants through the incision.

21. (Original) The method of claim 19, wherein the first implant is connected to the second implant prior to inserting the first and second implants through the incision.

22. (Original) The method of claim 12, wherein the first and second implants are separated by an unprepared end portion of the femur upon connecting the first implant to the prepared condyle end section of the femur and the second implant to the prepared trochlear section of the femur.

23. (Original) The method of claim 12, wherein preparing the condyle end section of the femur comprises preparing a medial condyle end section of the femur.

24. (Original) The method of claim 12, wherein preparing the condyle end section of the femur comprises preparing a lateral condyle end section of the femur.

25. (Original) The method of claim 12, wherein preparing the condyle end section of a femur in the knee portion includes resurfacing the condyle end section of the femur.

26. (Original) The method of claim 12, wherein preparing the trochlear section of the femur includes resurfacing the trochlear section.

27. (Previously presented) A method of performing surgery on a leg of a patient, comprising:

making a first incision in a knee portion of the leg;  
preparing only a single condyle end section of a femur in the knee portion;  
moving a first elongated implant through the first incision, the first implant having an articulating surface;

connecting the first implant with the prepared condyle end section of the femur, the articulating surface of the first implant operative as a weight bearing surface, throughout the normal range of motion of the joint, for the prepared condyle;

making a second incision in the knee portion of the, the second incision leg offset from the first incision;

preparing a trochlear section of the femur;  
moving a second implant through the second incision; and  
connecting the second implant with the prepared trochlear section of the femur.

28. (Original) The method of claim 27, further comprising:

preparing an end section of a tibia of the knee portion opposite the prepared condyle end section of the femur;

moving a third implant through one of the first and second incisions; and

connecting the third implant with the prepared end portion of the tibia, such that the third implant articulates with the first implant.

29. (Currently amended) A method of performing surgery on a leg of a patient, comprising:

making a first incision in a knee portion of the leg;

preparing a condyle end section of a femur in the knee portion;

moving a first implant through the first incision;

connecting the first implant with the prepared condyle end section of the femur;

making a second incision in the knee portion of the second incision leg offset from the first incision;

preparing a trochlear section of the femur;

moving a second implant through the second incision;  
connecting the second implant with the prepared trochlear section of the femur;  
preparing an end section of a tibia of the knee portion opposite the prepared condyle end section of the femur;  
moving a third implant through one of the first and second incisions; and  
connecting the third implant with the prepared end portion of the tibia, such that the third implant articulates with the first implant;  
wherein the first and third articulating surfaces are magnetically charged to repel each other to promote smooth gliding of the respective surfaces after surgery.

30. (Original) The method of claim 27, further comprising aligning the first and second implants for connection to the femur.

31. (Original) The method of claim 30, wherein computer navigation is used to align the first and second implants.

32. (Original) The method of claim 27, further comprising elevating a patella of the knee portion.

33. (Original) The method of claim 27, wherein the first implant includes a first articulating surface and the third implant includes a third articulating surface, such that the first articulating surface slidably engages the third articulating surface.

34. (Original) The method of claim 27, further comprising connecting the first implant to the second implant.

35. (Original) The method of claim 34, wherein the first implant is connected to the second implant after inserting the first and second implants through the first and second incisions.

36. (Original) The method of claim 34, wherein the first implant is connected to the second implant prior to inserting the first and second implants through the first and second incisions.

37. (Original) The method of claim 27, wherein the first and second implants are separated by an unprepared end portion of the femur upon connecting the first implant to the prepared condyle end section of the femur and the second implant to the prepared trochlear section of the femur.

38. (Original) The method of claim 27, wherein preparing the condyle end section of the femur comprises preparing a medial condyle end section of the femur.

39. (Original) The method of claim 27, wherein preparing the condyle end section of the femur comprises preparing a lateral condyle end section of the femur.

40. (Original) The method of claim 27, wherein preparing the condyle end section of a femur in the knee portion includes resurfacing the condyle end section of the femur.

41. (Original) The method of claim 27, wherein preparing the trochlear section of the femur includes resurfacing the trochlear section.

42. (Previously presented) The prosthetic implant system of claim 1, wherein said first member comprises at least two articulating surface portions, connectable in mutual contact within the body to form said first articulating surface.

43. (Currently amended) A prosthetic implant system for repairing a knee joint in a body of a patient, comprising:

a first member including a first articulating surface, the first member affixable to only one of a medial and lateral condyle of a femur portion of the knee joint, the first articulating surface



operative as a weight bearing surface throughout the normal range of motion of the joint, for the only one condyle;

a second member including a second articulating surface, the second member affixable to a trochlear section of the femur portion; and

a third member including a third articulating surface, the third member affixable to an end portion of a tibia portion of the knee joint opposite the first member;

wherein any of the first, second, and third members may be implanted irrespective of the implantation of any other of the first, second, and third members; and

wherein the first, second, and third members are implantable without a requirement for severing either cruciate ligament; and

wherein the other of the medial and lateral condyles is not provided with an affixed articulating surface operative as a weight bearing surface.

44. (New) The method of claim 12, further including the step of:  
preserving the quadriceps mechanism.

45. (New) The method of claim 12, wherein:  
in said step of preparing only a single condyle, preparing includes the steps of determining a position of a cutting guide using references derived independently from an intramedullary device, and cutting bone of the condyle; and

in said step of preparing a trochlear section, preparing includes the steps of determining a position of a cutting guide using references derived independently from an intramedullary device, and cutting bone of the trochlea.

46. (New) The method of claim 12, wherein:  
in said step of preparing only a single condyle, preparing includes the step of determining a position of a cutting guide using references derived independently from an intramedullary device, and cutting bone of the condyle using a robot responsive to said determined position; and

in said step of preparing a trochlear section, preparing includes the steps of determining a position of a cutting guide using references derived independently from an intramedullary device, and cutting bone of the trochlea using a robot responsive to said determined position.

47. (New) The method of claim 12, further including the steps of:

in said step of preparing only a single condyle, preparing includes the step of fabricating a customized cutting guide for the patient based on preoperative and clinical information, and cutting bone of the condyle using the customized guide.

48. (New) The method of claim 12, further including the steps of:

in said step of preparing a trochlear section, preparing includes the step of fabricating a customized cutting guide for the patient based on preoperative and clinical information, and cutting bone of the trochlea using the customized guide.

49. (New) The method of claim 12, further including the steps of:

in said step of preparing only a single condyle, preparing includes the step of avoiding substantially dislocating the knee joint; and

in said step of preparing a trochlear section, preparing includes the step of avoiding substantially dislocating the knee joint.

50. (New) The method of claim 12, further including the step of:

inserting an endoscope through an incision proximate the knee, to visually inspect locations within the knee.

51. (New) The method of claim 12, further including the step of:

in said step of preparing only a single condyle, preparing includes the step of inserting a cannula into a space within the knee.

52. (New) The method of claim 51, further including the step of:  
removing body tissue through the cannula.

53. (New) The method of claim 51, further including the step of:  
inserting at least one knee joint replacement component through the cannula.

54. (New) The method of claim 12, further including the steps of:  
preparing an end portion of the tibia;  
moving a third implant through the incision, the third implant including (a) a tray adapted to be connected to the prepared end portion of the tibia, and (b) a bearing insert having a first surface matable in sliding conformity with the tray, and a second surface adapted to articulate with the first implant; and  
connecting the tray to the prepared end portion of the tibia.